



Dart Aerospace Ltd.
1270 Aberdeen St
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K6A 1K7
Canada

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S149082

08481

D412-664-203
Job Sheet 189710



Part No: D412-664-203

Job Qty: 1 ea

Part Name: Aft Crosstube - High



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 1/29/19

Job Tracking No: rework B150220

Due Date: 2/13/19

Created By: Linda Lacelle

Type: Stock

Description:

Note: D412-664-243 REV F/ IIN-D212-664 REV.J IPP Rev:E 04.02.16 Reformat; Added D3189-1 K/DS IPP Rev:F 06-03-29 Remove Comments on Pick List JLM IPP Rev:G 06.12.08 per ECN 886 EC IPP Rev:H 07-04-30 As per Rev D JLM IPP Rev:I 08-06-12 add comment in seq. 21 DD verified by:EC IPP rev J 11.04.21 DEO D412-664-243-E-1 EC verified DD IPP REV:K 11.10.03 DEO D412-664-243-E-2 DD verf:EC

Ship Via:

Bill of Materials



Dart Aerospace Ltd.

1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA

TEL.: 1 613 632-5200
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www.dartaerospace.com

Container No: S149082



Aft Crosstube - High

PART NO: D412-664-203

Serial No/Batch: S149082

Revision:

Operation: Packaging

Change No: CHG010

Mfg Date: 01/29/19

Job No: 189710

Job Routing									
Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea		2/13/19	0.00	0.00	Start Up Stores/Pkg-1		<i>W</i>
180	Outsource	1 pcs	<i>W</i>	2/13/19			SKY002-VC	5	<i>W</i> JAN 30 2019
190	Packaging	1 pcs		2/13/19	0.00	0.00	Packaging2		<i>DAS</i>
200	QC	1 pcs		2/13/19	0.00	0.00	QC5		<i>38</i>
210	SprayPaint	1 pcs		2/13/19	0.00	1.47	Spray Paint		<i>R.D. 19-2-23</i>
220	QC	1 pcs		2/13/19	0.00	0.00	QC14		<i>AG 19-2-24</i>
230	Crosstubes	1 pcs		2/13/19	0.00	3.33	Crosstubes-2		<i>R.D. 19-2-24</i>
240	QC	1 pcs		2/13/19	0.00	0.00	QC5		<i>W 19-03-05</i>
250	Packaging	1 pcs		2/13/19	0.00	0.00	Packaging1-4		<i>DAS</i>
260	QC	1 pcs		2/13/19	0.00	0.00	QC4		<i>46 MAR 08 2019</i>
270	Packaging	1 pcs		2/13/19	0.00	0.00	Packaging3-2		<i>46 MAR 08 2019</i>
275	DC	1 pcs		2/13/19	0.00	0.00	DC		<i>9-89 21 MAR 11 2019</i>
280	QC21-FG	1 Ea		2/13/19	0.00	0.00	QC21		<i>9-89 21 MAR 11 2019</i>

Part Op 180 - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***
 Descriptions: 190 - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***
 200 - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Inspect for damage & ensure results are as per Dwg D412-664-203
 210 - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** **VERIFY BY _____ BATCH # TO MATCH W/O _____ 1-Prime inside and outside crosstube as per QSI 005 4.2 AND DWG
 PRIMER: *5143304* START TIME: _____ 2-Paint outside crosstube with White Imron as per DWG D412-664-243 and QSI 005 4.2 3- Apply clear coat after paint as per DWG
 220 - Then, Wrap in plastic bag to protect from scratches
 230 - Assemble as per Dwg D412-664-203 1- Install center support using scoth-weld DP460 per QSI 015, as per DWG. note 13. Install supports clamps using as per Dwg D412-644-243. Install clamp with rubber cushion as per DWG. note 14. ***ENSURE CLAMPS ARE ON TOP OF CROSSTUBE SUPPORT*** Torque clamps on support to 80-100 IN-LBS AS PER DWG. EXP DATE: _____ 2- **IF NOT ALREADY PRESENT ON CHAFFING SHEILD.** Apply a thin coat of proseal 890 per QSI 015 on inside concave surface of chafing shield and let cure per manufacturer's instructions. Install prosealed chafing shield onto crosstube by applying a thin coat of proseal 890 onto crosstube. Be sure to eliminate any air gaps. Install and torque clamps on chafing shield to 40-50 IN-LBS AS PER DWG. EXP DATE: *19-6*
 AFTER FINISH CURE TIME 24H START CURE TIME: *19-2-24* FINISH CURE TIME: *19-2-25*
 240 - ***RE-CHECK TORCQUE ON CLAMP AFTER PROSEAL HAS CURED FOR 24HOURS AS PER DWG.***
 270 - Identify and pack for shipping as per PPP D412-664-203 *****Ensure tube is not packaged if curing time is less than 12 hrs, see step 27 for application time & date ***** Time & date of packaging: _____
 Location: _____
 275 - Photocopy bluefile and create labels as per PPP D412-664-203 CHG 010
 280 - 1- *****LAY DOWN CORSTUBE ON TABLE AND PUT DT10302 PINS IN SADDLE HOLE FACING UP TO LOCATE CENTER OF CROSSTUBE***** Install center support using scoth-weld DP460 per QSI 015, as per DWG. note 13. Install supports clamps using as per Dwg D412-644-243. Install clamp with rubber cushion as per DWG. note 14. ***ENSURE CLAMPS ARE ON TOP OF CROSSTUBE SUPPORT*** Torque clamps on support to 80-100 IN-LBS AS PER DWG. 1- *****LAY DOWN CORSTUBE ON TABLE AND PUT DT10302 PINS IN SADDLE HOLE FACING UP, USE HOLE IN TAPE MESURE TO PUT IN PINS FOR LOCATING CENTER OF CROSSTUBE. ***** Install center support using scoth-weld DP460 per QSI 015, as per DWG. note 13. Install supports clamps using as per Dwg D412-644-243. Install clamp with rubber cushion as per DWG. note 14. ***ENSURE CLAMPS ARE ON TOP OF CROSSTUBE SUPPORT*** Torque clamps on support to 80-100 IN-LBS AS PER DWG.

clear:
5138875
 white:
5146086

Proseal:
5138976
 exp 19-6
 scotch weld:
5064031

Job BOM				
Part / Item	Component Name	Quantity	Operation	Container
D412-664-203TRN	Crosstube Turning Detail	1 Ea (1 ea)	90-Start up Operation	
D2896-1	Support	1 pcs (1 ea)	230-Crosstubes	
D3189-1	Chaffing Shield	2 pcs (2 ea)	230-Crosstubes	
D3595-063-570	Rubber Cushion 0.63" Wide X 5.70" Long	2 pcs (2 ea)	230-Crosstubes	
MS21920-28	Clamp	4 Ea (4 ea)	230-Crosstubes	
MS21920-30	Clamp	2 Ea (2 ea)	230-Crosstubes	
AN6-40A	3/8-24 Bolt X 3" Long	4 Ea (4 ea)	250-Packaging	<i>5107752</i>
AN6-41A	Bolt	2 Ea (2 ea)	250-Packaging	<i>5038736</i>
MS21042L6	Nut	6 Ea (6 ea)	250-Packaging	<i>2107756</i>
NAS1149D0663J	Washer	18 Ea (18 ea)	250-Packaging	<i>5093765</i>

Job Allocations				
Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation 230-Crosstubes	D412-664-203TRN	1	4	0
	D2896-1	① 5052387	9	0
	D3189-1	② 5052387	15	0
	D3595-063-570	③ 5050672	106	0
	MS21920-28	④ 5123440	66	0
	MS21920-30	⑤ 5005127	25	0
250-Packaging	AN6-40A	4	112	0
	AN6-41A	2	44	0
	MS21042L6	6	252	0
	NAS1149D0663J	18	1,012	0
Part Specifications				
Specifications could not be found.				

Plex 1/29/19 2:58 PM dart.lacelle.linda



Dart Aerospace Ltd.
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Tel (613) 632-5200

D412-664-203
Job Sheet R172997



Part No: D412-664-203

Job Qty: 1 ea

Part Name: Aft Crosstube - High



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 2/23/18

Job Tracking No:

Due Date: 3/13/18

Created By: Linda Lacelle

Type: Rework

Description:

Note: DWG REV F IPP Rev:E 04.02.16 Reformat; Added D3189-1 K/DS IPP Rev:F 06-03-29 Remove Coments on Pick List JLM IPP Rev:G 06.12.08 per ECN 886 EC IPP Rev:H 07-04-30 As per Rev D JLM IPP Rev:I 08-06-12 add comment in seq. 21 DD verified by:EC IPP rev J 11.04.21 DEO D412-664-243-E-1 EC verified DD IPP REV:K 11.10.03 DEO D412-664-243-E-2 DD verf:EC

Ship Via:

Bill of Materials

See attached new rework 189710



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Container No: S045001



Aft Crosstube - High

PART NO: D412-664-203

Serial No/Batch: B150220

Revision:

Operation: QC21-FG

Change No: CHG010

Mfg Date: 02/23/18

Job No:

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea		3/5/18	0.00	0.00	Start Up Stores/Pkg-1		
160	HandFXtube	1 pcs		3/6/18	0.00	1.03	HandFinish5		
165	QC	1 pcs		3/6/18	0.00	0.00	QC7-3		
170	QC	1 pcs		3/6/18	0.00	0.00	QC5		
180	Outsource	1 pcs		3/12/18			SKY002-VC	5	CT 19-01-24
190	Packaging	1 pcs		3/12/18	0.00	0.00	Packaging2		
200	QC	1 pcs		3/12/18	0.00	0.00	QC5		
210	SprayPaint	1 pcs		3/12/18	0.00	1.47	Spray Paint		
220	QC	1 pcs		3/12/18	0.00	0.00	QC14		
230	Crosstubes	1 pcs		3/13/18	0.00	3.33	Crosstubes-2		
240	QC	1 pcs		3/13/18	0.00	0.00	QC5		
250	Packaging	1 pcs		3/13/18	0.00	0.00	Packaging1-4		MAR 05 2018
260	QC	1 pcs		3/13/18	0.00	0.00	QC4		
265	DC	1 pcs		3/13/18	0.00	0.00	DC		
270	Packaging	1 pcs		3/13/18	0.00	0.00	Packaging3-2		
280	QC21-FG	1 Ea		3/13/18	0.00	0.00	QC21		

Part Op 160 - ***IMMEDIATELY AFTER GRINDING***

Descriptions: 170 - INSPECT ENGRAVING AND BATCH #

180 - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Pool 23 x 3

190 - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***

200 - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Inspect for damage & ensure results are as per Dwg D412-664-203

210 - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** **VERIFY BY _____ BATCH # TO MATCH W/O _____ 1-Prime inside and outside crosstube as per QSI 005 4.2 AND DWG

PRIMER: _____ START TIME: _____ 2-Paint outside crosstube with White Imron as per DWG D412-664-243 and QSI 005 4.2 3- Apply clear coat after paint as per DWG

220 - Then,Wrap in plastic bag to protect from scratches

230 - Assemble as per Dwg D412-664-203 1- Install center support using scoth-weld DP460 per QSI 015, as per DWG. note 13. Install supports clamps using as per Dwg D412-644-243. Install clamp with rubber cushion as per DWG. note 14. ***ENSURE CLAMPS ARE ON TOP OF CROSSTUBE SUPPORT*** Torque clamps on support to 80-100 IN-LBS AS PER DWG. EXP DATE: _____ 2- **IF NOT ALREADY PRESENT ON CHAFFING SHEILD.** Apply a thin

coat of proseal 890 per QSI 015 on inside concave surface of chafing shield and let cure per manufacturer's instructions. Install proseal chafing shield onto crosstube by applying a thin coat of proseal 890 onto crosstube. Be sure to eliminate any air gaps. Install and torque clamps on chafing shield to 40-50 IN-LBS AS PER DWG. EXP DATE: _____

AFTER FINISH CURE TIME 24H START CURE TIME: _____ FINISH CURE TIME: _____

240 - ***RE-CHECK TORCQUE ON CLAMP AFTER PROSEAL HAS CURED FOR 24HOURS AS PER DWG.***

265 - Photocopy bluefile and create labels as per PPP D412-664-203 CHG 010

270 - Identify and pack for shipping as per PPP D412-664-203 *****Ensure tube is not packaged if curing time is less than 12 hrs, see step 27 for application time & date ***** Time & date of packaging: _____

Location: _____

280 - 1- *****LAY DOWN CORSTUBE ON TABLE AND PUT DT10302 PINS IN SADDLE HOLE FACING UP TO LOCATE CENTER OF CROSSTUBE***** Install center support using scoth-weld DP460 per QSI 015, as per DWG.

note 13. Install supports clamps using as per Dwg D412-644-243. Install clamp with rubber cushion as per DWG. note 14. ***ENSURE CLAMPS ARE ON TOP OF CROSSTUBE SUPPORT*** Torque clamps on support to 80-100 IN-LBS AS PER DWG. 1- *****LAY DOWN CORSTUBE ON TABLE AND PUT DT10302 PINS IN SADDLE HOLE FACING UP, USE

HOLE IN TAPE MESURE TO PUT IN PINS FOR LOCATING CENTER OF CROSSTUBE. ***** Install center support using scoth-weld DP460 per QSI 015, as per DWG. note 13. Install supports clamps using as per Dwg D412-644-243. Install clamp with rubber cushion as per DWG. note 14. ***ENSURE CLAMPS ARE ON TOP OF CROSSTUBE

SUPPORT*** Torque clamps on support to 80-100 IN-LBS AS PER DWG.

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D412-664-203	Aft Crosstube - High	1 Ea (1 ea)	90-Start up Operation	
D2896-1	Support	1 Ea (1 ea)	230-Crosstubes	
D3189-1	Chaffing Shield	2 Ea (2 ea)	230-Crosstubes	
D3595-063-570	Rubber Cushion 0.63" Wide X 5.70" Long	2 Ea (2 ea)	230-Crosstubes	
MS21920-28	Clamp	4 Ea (4 ea)	230-Crosstubes	
MS21920-30	Clamp	2 Ea (2 ea)	230-Crosstubes	
AN6-40A	3/8-24 Bolt X 3" Long	4 Ea (4 ea)	250-Packaging	
AN6-41A	Bolt	2 Ea (2 ea)	250-Packaging	
MS21042L6	Nut	6 Ea (6 ea)	250-Packaging	
NAS1149D0663J	Washer	18 Ea (18 ea)	250-Packaging	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D412-664-203	1	2	0
230-Crosstubes	D2896-1	1	5	0
	D3189-1	2	25	0
	D3595-063-570	2	31	0
	MS21920-28	4	103	0
	MS21920-30	2	55	0
250-Packaging	AN6-40A	4	176	0
	AN6-41A	2	51	0
	MS21042L6	6	566	0
	NAS1149D0663J	18	1,830	0

Part Specifications

Specifications could not be found.

Linda Lacelle

From: Chris Provencal
Sent: Wednesday, February 21, 2018 4:52 PM
To: Linda Lacelle
Cc: Jesse White
Subject: RE: Required steps to re-stock D212-664-101 B152042

Linda,

Use this email for the 212 fwd. I added in the missing QC7 step

Chris

From: Chris Provencal
Sent: Wednesday, February 21, 2018 3:51 PM
To: 'L Lacelle' <llacelle@dartaero.com>
Cc: Jesse White <jwhite@dartaero.com>
Subject: Required steps to re-stock D212-664-101 B152042

Linda,

~~D212-664-101 B152042~~
D412-664-243 B150220

1. Photocopy bluefile as per PPP ~~D212-664-101~~ CHG 006
2. Pick Kit – Packaging
3. Remove supports and clamps. Clean Proseal off crosstube.
4. QC5 – Inspect entire crosstube for damage.
5. Repair damage per dwg ~~D212-664-141~~ note 9. D412-664-243 Rev. F
6. Chemical conversion coat per QSI 005
7. QC 7 – Inspect chemical conversion coat
8. If repair was performed, NDT per QSI 038 4.1
9. QC 5 – Inspect for damage and ensure result are as per dwg ~~D212-664-141~~ D412-664-243 Rev. F
10. Prime inside & outside per QSI 005 4.2
 Apply clear coat per QSI 005 4.2
 Mask underside of crosstube as shown on dwg before painting
 Paint outside of crosstube per QSI 005 4.2

DAS
12
9-89

4/15/10

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐								
		OTHER :							

11. QC 14 – Inspect paint
12. Abrade mating surface of support and crosstube with 180-grit sandpaper
Install supports with ~~proseal 890~~ per ~~D212-664-141~~ and QSI 015. Cure time = ²⁴~~72~~ hours, DP460 per D412-664-243 Rev.F
Install clamps with rubber cushions using ~~DT9565~~ per dwg ~~D212-664-141~~ D412-664-243 Rev F
Torque clamps 80-100 in-lbs Install chocking shield with clamps per D412-664-243 Rev.F
13. QC 5 – Re-check torque on clamps after full cure
14. Pick Kit
15. QC 4 – 100% Inspect kit for completeness
16. Packaging – Identify for shipping per PPP ~~D212-664-101~~ D412-664-203
Location: FG094
17. QC 21

}
qP
10/5/10

Sincerely,

Chris Provencal, P.Eng
Senior Engineer

DART AEROSPACE
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1 800 556-4166
www.dartaerospace.com

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____		MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition			

Root Cause				FAULT CATEGORY			
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER : _____			
Misidentified	☐	Past Due	☐				

Linda Lacelle

From: Jesse White
Sent: Wednesday, February 21, 2018 2:36 PM
To: Ian Titley
Cc: Chris Provencal; Linda Lacelle
Subject: Re: 412 drop test leftovers

D212-664-101 batch 152042

D412-664-203 batch 150220

Both of these need custom w/o's to be completed. The 101 will be able to ship sooner this way Linda

On Feb 21, 2018, at 2:28 PM, Ian Titley <ititley@dartaero.com> wrote:

From: Ian Titley
Sent: Thursday, February 01, 2018 11:26 AM
To: Chris Provencal <cprovencal@dartaero.com>
Subject: 412 drop test leftovers

Hello Chris

I have talked to production and they are waiting for a procedure to make custom w/o's to be able to process these tubes. In the past what we have done is;

- pull part to custom w/o
- remove and discard all hardware
- re-start production on part at the step of re-grind and continue production of said part as per the traditional w/o would specify:
 - grind
 - alodine
 - ndt
 - prime/paint
 - assemble using all new hardware
 - package

All this including the specified qc inspections at the right intervals. Could you confirm these steps are correct so that production can continue with these parts.

Thanks

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☒ Water Jet ☐ Supplier ☐ Quality ☐		
Date : 19/01/04	Sequence #: _____	QTY Affected : _____	MRB (QSI042) INSP 12 <i>[Signature]</i> 19/01/04	
Description Work Order Deviation Crosstube has a < 0.005" nick from handling just above cuff.		Disposition Acceptable to blend out nick per diag. Re-NDT affected area.		Completed By Lead hand / Supervisor QC / QA Coordinator
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled		FAULT CATEGORY ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread		
Other/Details: _____				



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO042383



Supplier: SKY002-VC
Skyservice
6120 Midfield Road
Mississauga
ON
L5P 1B1 Canada
Phone: 905-678-5636
Fax: 905-678-5841

PO No: PO042383
PO Date: 1/24/19
Due Date: 1/30/19
Purchase Order
Revision:
Revision Date:
Ship-To Contact: Tsimiklis, ChrisoulaPhone:

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pynt Terms: Net 30
Freight Terms:
Special Comments: *revised*

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	180864	D407-667-105	Fwd Crosstube - High 407 : TC STC SH01-5 Issue 3, FAA STC SR01304NY 05/12/15, JCAB JAPAN STC-32-OSA 02/02/28, EASA STC EASA.IM.R.S.01179 06/07/03, BRAZIL 2009S08-16 09/08/25, BRAZIL 2009S08-17 09/08/25 *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** OUTSIDE SERVICE - CROSSTUBES Liquid Penetrant Inspection as per QSI 038 Or Level 2 Attach copy of NDT results to work order *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** OUTSIDE SERVICE - CROSSTUBES Liquid Penetrant Inspection as per QSI 038 Or Level 2 Attach copy of NDT results to work order	Firmed	-	1/30/19	1 pcs	0 pcs	1 pcs	\$131.875/pcs	\$131.88
2	188323	D350-748-203	ISSUE P/O TO SKY SERVICE: ISSUE P/O TO SKY SERVICE:	Firmed	-	1/30/19	1 pcs	0 pcs	1 pcs	\$131.875/pcs	\$131.88
	184901			Firmed	-	1/30/19	1 pcs	0 pcs	1 pcs	\$131.875/pcs	\$131.88
Sub Total:							2	0	2		\$263.75



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO042383



Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
3	188322	D350-748-103	AS350 / AS355 Stainless Steel Fwd Crosstube : TC STC SH06-27 Issue 2, FAA STC SR02359NY 11/03/04, EASA STC EASA.10016903 Revision 2 10/09/03, BRAZIL 2009S04-04 09/04/06 ISSUE P/O TO SKY SERVICE:	Firmed	-	1/30/19	1 pcs	0 pcs	1 pcs	\$131.875/pcs	\$131.88
	188318		IX JAN 30 2019	Firmed	-	1/30/19	1 pcs	0 pcs	1 pcs	\$131.875/pcs	\$131.88
	188321		IX JAN 30 2019	Firmed	-	1/30/19	1 pcs	0 pcs	1 pcs	\$131.875/pcs	\$131.88
	188319		IX JAN 30 2019	Firmed	-	1/30/19	1 pcs	0 pcs	1 pcs	\$131.875/pcs	\$131.88
Sub Total:							4	0	4		\$527.50
4	189710	D412-664-203	Aft Crosstube - High : TC STC SH01-9 Issue 3, FAA STC SR01298NY 09/01/08, EASA STC EASA.IM.R.S.01304 07/03/06, DGAC MEXICO STC IA-316/2015 15/06/17 *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***	Firmed	-	1/30/19	1 pcs	0 pcs	1 pcs	\$131.875/pcs	\$131.88
							IX JAN 30 2019				

Grand Total: \$1,055.00

Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 1/29/19 3:12 PM dart.tsimiklis.chrisoula

**skyservice****Work Order Traveler**
Sky Service F.B.O. Inc.

10105 Ryan Avenue, Dorval, Quebec, H9P 1A2

TCCA AMO 53-89 / EASA 145.7142 / BDA AMO 385

WO #: MWO39047	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference: PO042383
Descr:	PN:	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN:	CSN:	TSO:	
Task: UNSCHEDULED			Sequence: 1

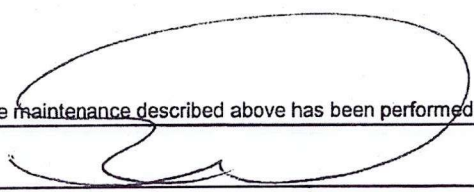
Work Required:

CARRY OUT NDT ON:

- ✓ 1 FWD CROSSTUBES , P/N# D407-667-105 , J/S# 180864 ✓
- ✓ 2 CROSSTUBES , P/N# D350-748-203 , J/S# 188323 , 184901 ✓
- ✓ 4 FWD CROSSTUBES , P/N# D350-748-103 , J/S# 188322 , 188318 , 188321 , 188319 ✓
- ✓ 1 AFT CROSSTUBES , P/N# D412-664-203 , J/S# R172997 (189710) ✓

Action Taken:						Date:	Initial/Stamp:
LPI C/O IAW ASTM E-1417M-16						JAN 24 2019	 
NO CRACK FOUND							
PEN ZL-37, MPO23206, CLEANER SKC-S MPO15030, EMU. MPO15896, DEV. MPO15030, UV LIGHT M-20142							
Description	Location	P/N	Qty	Batch	S/N Off	S/N On	

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature: 	ACA/SCA Stamp 	Date: JAN 24 2019
Name: RAFIK MELIKIAN		

Change Record

PAGE 1 OF 1

Part Number: D412-664-203/-203AN/-203F

Description: CROSSTUBE INSTALLATION, HIGH AFT

[illegible]